UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,840	06/24/2003	David J. Nelson	86051WRZ	9307

7590 08/08/2005

Milton S. Sales
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER	
LIANG, LEONARD S	

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/602,840	NELSON ET AL.	
	Examiner	Art Unit	
	Leonard S. Liang	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *2,3,7-9,19,20,22,23,25,29,30 and 33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-6,10-18,21,24,26-28,31 and 32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 June 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/24/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 1, 4-6, 10-18, 21, 24, 26-28, and 31-32 have been elected and will herein be prosecuted. Claims 2-3, 7-9, 19-20, 22-23, 25, 29-30, and 33 are withdrawn from consideration.

Specification and Drawings

The lengthy specification and drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification and drawings.

The disclosure is objected to because of the following informalities:

In the section "Cross Reference to Related Applications," the applicant is required to fill in the missing serial numbers.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-6, 10, 11-18, 24, 26-28, and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jagannathan et al (US Pat 6471327).

Jagannathan et al discloses:

- {claim 1} A method of printing (figure 1A, 1F); providing a receiver (figure 1A, 1F, reference 14); controllably depositing a marking material on the receiver by delivering a mixture of a compressed fluid solvent and the marking material toward the receiver, the mixture being contained under a first condition prior to delivery toward the receiver, the marking material becoming free of the compressed fluid solvent prior to reaching the receiver (figure 1A, reference 12-13; figure 1F, reference 12a, 13; column 3, lines 25-37); controllably depositing the marking material on the receiver by delivering the mixture of the compressed fluid solvent and the marking material toward the receiver, the mixture being contained under a second condition prior to delivery toward the receiver, the marking material becoming free of the compressed fluid solvent prior to reaching the receiver (figure 1A, reference 12-13 (when printing is executed at least twice); figure 1F, reference 12a, 13; column 3, lines 25-37; column 7, lines 19-34; valve 15 and pressure control mechanism 17 are equipped to control pressure)

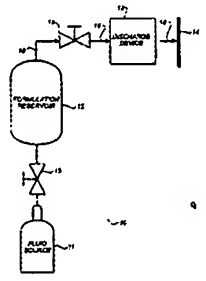

FIG. 1A

- {claims 4 and 24} wherein the first condition includes maintaining the mixture of the compressed fluid solvent and the marking material under a first pressure and the second condition includes maintaining the mixture of the compressed fluid solvent and the marking material under a second pressure (figure 1A, reference 12-13; figure 1F, reference 12a, 13; column 3, lines 25-37; column 4, lines 21-29; column 5, lines 29-50; column 7, lines 19-34; valve 15 and pressure control mechanism 17 control pressure of first and second condition)

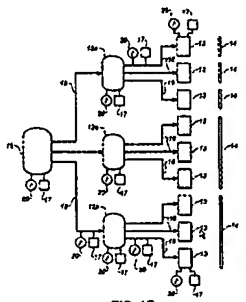

FIG. 1F

- {claim 5} wherein controllably depositing the marking material of the mixture contained under the first condition includes delivering the mixture from the first pressure to a solvent evaporating pressure (figure 1A, 1F; column 3, lines 25-37; column 4, lines 21-29; column 5, lines 29-50; column 7, lines 19-34)
- {claim 6} wherein controllably depositing the marking material of the mixture contained under the second condition includes delivering the mixture from the second pressure to a solvent evaporating pressure (figure 1A, 1F; column 3, lines 25-37; column 4, lines 21-29; column 5, lines 29-50; column 7, lines 19-34)
- {claims 10 and 26} wherein controllably depositing the marking material associated with the first condition comprises controllably depositing the marking

material associated with the first condition prior to controllably depositing the marking material associated with the second condition (figure 1A; depending on data to be printed, valve 15 can deposit marking material in accordance to the first condition prior to depositing in accordance to the second condition)

- {claims 11 and 27} wherein controllably depositing the marking material associated with the first condition occurs simultaneously with controllably depositing the marking material associated with the second condition (figure 1F)
- {claim 12} wherein controllably depositing the marking material associated with the first condition comprises controllably depositing the marking material associated with the first condition in a first location on the receiver and controllably depositing the marking material associated with the second condition comprises controllably depositing the marking material associated with the second condition in a second location on the receiver, the first location being distinct from the second location
- {claim 13} wherein controllably depositing the marking material associated with the first condition comprises controllably depositing the marking material associated with the first condition in a first location on the receiver and controllably depositing the marking material associated with the second condition comprises controllably depositing the marking material associated with the second condition in a second location on the receiver, the second location at least partially overlapping the first location (figure 1A, reference 13; when printing at least two times)

- {claim 15} wherein the first condition includes maintaining the mixture of the compressed fluid solvent and a first concentration of the marking material and the second condition includes maintaining the mixture of the compressed fluid solvent and a second concentration of the marking material (figure 1A, reference 12)
- {claim 17} A method of printing (figure 1A, 1F); providing a receiver (figure 1A, 1F, reference 14); controllably depositing a first marking material on the receiver by delivering a mixture of a compressed fluid solvent and the first marking material toward the receiver, the mixture being contained under a first condition prior to delivery toward the receiver, the first marking material becoming free of the compressed fluid solvent prior to reaching the receiver; controllably depositing the first marking material on the receiver by delivering the mixture of the compressed fluid solvent and the first marking material toward the receiver, the mixture being contained under a second condition prior to delivery toward the receiver, the mixture being contained under a second condition prior to delivery toward the receiver, the first marking material becoming free of the compressed fluid solvent prior to reaching the receiver; depositing a second marking material (figure 1A, reference 12-13 (when printing occurs twice); figure 1F, reference 12a, 13; column 3, lines 25-37; column 7, lines 19-34)
- {claim 18} controllably depositing the second marking material on the receiver by delivering a mixture of a compressed fluid solvent and a second marking

material toward the receiver, the mixture being contained under a first condition prior to delivery toward the receiver, the second marking material becoming free of the compressed fluid solvent prior to reaching the receiver; and controllably depositing the second marking material on the receiver by delivering the mixture of the compressed fluid solvent and the second marking material toward the receiver, the mixture being contained under a second condition prior to delivery toward the receiver, the second marking material becoming free of the compressed fluid solvent prior to reaching the receiver (figure 1A, 1F; column 3, lines 25-37; column 4, lines 21-29; column 5, lines 29-50; column 7, lines 19-34)

- {claim 28} A printing apparatus; a source of a mixture of a compressed fluid solvent and a marking material; a discharge device positioned in fluid communication with the source of the mixture of the compressed fluid and the marking material; and a condition controlling device positioned in fluid communication between the source and the discharge device (figure 1A, 1F; column 3, lines 25-37; column 4, lines 21-29; column 5, lines 29-50; column 7, lines 19-34)
- {claim 31} wherein the condition controlling device is a pressure controlling device (figure 1F, reference 17)
- {claim 32} wherein the pressure controlling device is a pressure reduction valve (column 5, lines 29-50)

Jagannathan et al differs from the claimed invention in that it does not explicitly disclose:

- {claims 1, 17, and 18} the second condition being distinct from the first condition
- {claims 14 and 21} wherein controllably depositing the marking material associated with the first condition and controllably depositing the marking material associated with the second condition comprises controllably depositing the marking material associated with the first condition and the second condition such that the combined deposited marking material has an increased color spectrum relative to the marking material associated with the first condition
- {claim 16} wherein the first condition includes maintaining the mixture of the compressed fluid solvent and the marking material at a predetermined pressure, temperature, and marking material concentration and the second condition includes altering at least one of the predetermined pressure, temperature, and marking material concentration

Jagannathan discloses:

- {claims 1, 14, 16, 17, 18, and 21} pressure control mechanisms (column 5, lines 29-50)

Though Jagannathan does not disclose that altering pressure between a first and second condition must occur, it is naturally suggested in the disclosed pressure control mechanisms that altering pressure between a first and second condition can occur, thus rendering the second condition distinct from the first condition. Under such a scenario, it is naturally suggested that the combined deposited marking material of the first condition and the second condition has an increased color spectrum relative to the marking material associated with the first condition. It

would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Jagannathan to allow for different pressure control between the first and second conditions. The motivation for the skilled artisan in doing so is to gain the benefit of quicker, more accurate, and more precise printing.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Richards (US Pat 6705711) discloses methods, systems, and devices for controlling ink delivery to one or more print heads.

Sievers et al (US Pat 5639441) discloses methods for fine particle formation.

Naniwa et al (US Pat 6481830) discloses an ink jet plate-making method, ink jet plate-making apparatus, computer-to-cylinder type lithographic printing process and computer-to-cylinder type lithographic printing apparatus.

Sadasivan et al (US Pat 6672702) discloses a method and apparatus for printing, cleaning, and calibrating.

Sadasivan et al (US Pat 6866371) discloses a method and apparatus for printing and coating.

Schieifer et al (US Pat 6372483) discloses preparation of biopolymer arrays.

Eremity et al (US Pat 6174052) discloses a self-priming system for ink jet printers.

Ohsawa et al (US PgPub 20020180853) discloses an inkjet printing method and printing apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

08/03/05
lsl LSL

8/5/05
MANISH S. SHAH
PRIMARY EXAMINER